

REMARKS

The Office Action mailed on April 25, 2002, has been received and reviewed.

Claims 1-39 are currently pending in the above-referenced application.

Claims 24-39 were subject to a restriction requirement. As claims 24-39 are drawn to a nonelected invention and, thus, are no longer under consideration, each of claims 24-39 has been canceled without prejudice or disclaimer.

Claims 1-3, 5, 6, 9-15, 17-19, and 21-23 stand rejected, although no reason has been provided in the outstanding Office Action for the rejection of claim 13.

It has been indicated that the subject matter recited in each of claims 4, 7, 8, 16, and 20 is allowable, but these claims have been objected to for depending from unallowable base claims.

Reconsideration of the above-referenced application is respectfully requested.

Preliminary Amendment

It is noted that a Preliminary Amendment was filed in the above-referenced application on December 7, 2000, but that filing of the Preliminary Amendment has not yet been acknowledged. If, for some reason, the Preliminary Amendment has not yet been entered into the Office file, the undersigned attorney will be happy to have a true copy thereof hand-delivered to the Examiner.

Rejections Under 35 U.S.C. § 102

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Meyer

Claims 1, 2, 6, 10, 17, and 18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,722,877 to Meyer et al. (hereinafter "Meyer").

Meyer describes a semiconductor wafer polishing apparatus that includes a belt-type polishing pad, a platen disposed beneath an area of the polishing pad against which a semiconductor wafer is to be biased, and a support housing beneath the platen. In addition, the polishing apparatus of Meyer includes a platen ring around the platen. While the platen ring laterally surrounds all or part of the platen, Meyer includes no express or inherent description that the platen ring retains the platen. Rather, Meyer discloses that the platen ring is configured to improve the planarity of structures which have been subjected to chemical mechanical polishing processes.

Independent claim 1 of the above-referenced application recites an apparatus for polishing one or more layers of a semiconductor device structure. The apparatus of independent claim 1 includes a polishing pad, a subpad support located adjacent the polishing pad, and a subpad located between the subpad support and the polishing pad. The subpad is removably secured to the subpad support by way of a subpad retention element.

Again, the description of Meyer is limited to a platen ring which merely improves the planarity of a material layer during polishing thereof. Further, Meyer does not expressly or inherently describe that the platen ring is part of or secured to the support housing. Thus, Meyer does not expressly or inherently describe a subpad support which includes a subpad retention element. As Meyer lacks any express or inherent description of a subpad support which includes a subpad retention element, it is respectfully submitted that Meyer does not anticipate each and every element of independent claim 1, it is respectfully submitted that, under 35 U.S.C. § 102(b), independent claim 1 is allowable over Meyer.

Claims 2, 6, and 10 are allowable, among other reasons, as depending either directly or indirectly from claim 1, which is allowable.

Claim 6 is further allowable since Meyer lacks any express or inherent description of a substantially rigid structure on a backing of the platen thereof.

Claim 10 depends from claim 6 and is also allowable because Meyer does not expressly or inherently describe that the platen thereof includes a sense region at the substantially rigid backing thereof.

Independent claim 17 recites a subpad support that includes a subpad retention element.

Meyer neither expressly nor inherently describes that the support housing thereof includes a subpad retention element. Instead, Meyer describes a platen ring that at least partially surrounds a platen. Meyer does not expressly or inherently describe that the platen ring is part of the support housing or that the platen ring is configured to retain a subpad.

Accordingly, it is respectfully submitted that Meyer does not anticipate each and every element of independent claim 17. Therefore, it is respectfully submitted that, under 35 U.S.C. § 102(b), independent claim 17 is allowable over Meyer.

Claim 18 is allowable as depending directly from claim 17 and, further, because Meyer does not expressly or inherently describe that the platen ring described therein is configured to removably retain a subpad.

Kao

Claims 1-3, 5, 6, 9, 11, 12, 14, 15, 17-19, and 21-23 stand rejected under 35 U.S.C. § 102(a) (presumably 35 U.S.C. § 102(e)) as being anticipated by U.S. Patent 6,126,527 to Kao et al. (hereinafter "Kao").

Kao describes a polishing apparatus which includes a polishing pad 130, referred to in Kao as a "polishing material". The pad rests upon a support structure 142 which includes a large cavity 140 that underlies the polishing pad 130. The cavity 140 of the support structure 142 is configured to contain a fluid, such as water, that may be used to control the temperature of the polishing process and to provide support for the polishing pad 130. *See*, col. 3, lines 53-59. An

annular seal 144, 200 positioned between the polishing pad 130 and the support structure 142 prevents fluid from escaping the cavity 140 and maintains a desired fluid pressure within the cavity 140. The portion 134 of the polishing pad 130 that is located over the cavity 140 and within the confines of the annular seal 144, 200 is larger than the area of a wafer 120 to be polished with the polishing pad 130 so as to "reduce edge effects caused by the seals and to provide a more uniform polishing process." Col. 3, lines 41-44.

With respect to independent claim 1, Kao lacks any express or inherent description of a subpad which is removably secure to a subpad support by way of a subpad retention element. As known in the art and explained in the disclosure of the above-referenced application, a subpad is typically located opposite a wafer support and is configured to prevent the formation of defects on a wafer during polishing thereof, as well as to cushion the polishing pad and wafer being polished. Page 2, lines 22-25. Instead, Kao describes a seal 144, 200 between the polishing pad 130 and the support structure 142. As the seal 144, 200 is an annular member which is intended to facilitate the pressurization of fluid within the cavity 140 and which is not positioned on opposite side of the polishing pad 130 from the location at which a wafer 120 is supported, the seal does not comprise a subpad support.

It is, therefore, respectfully submitted that Kao does not anticipate each and every element of independent claim 1. Therefore, under 35 U.S.C. § 102(a) and (e), independent claim 1 is allowable over Kao.

Each of claims 2, 3, 5, 6, 9, 11, 12, 14, and 15 is allowable, among other reasons, as depending either directly or indirectly from claim 1, which is allowable.

Claim 3 is additionally allowable since Kao neither expressly nor inherently describes a retention element which is configured to retain at least a portion of a periphery of the seal described therein.

Claim 12 is further allowable because Kao lacks any express or inherent description of a lip which substantially completely laterally surrounds a peripheral edge of the seal described therein.

Independent claim 17 is allowable over Kao since Kao lacks any express or inherent description of a subpad support that comprises a subpad retention element. Rather, as described above, the support structure 142 of Kao is configured to support a seal 144, 200, which is quite different from a subpad, as recited in independent claim 17. As such, the support structure 142 described in Kao is not a “subpad support”, as recited in independent claim 17.

As Kao does not expressly or inherently describe each and every element of independent claim 17, it is respectfully submitted that, under 35 U.S.C. § 102(a) and (e), independent claim 17 is allowable over Kao.

Claims 18, 19, and 21-23 are each allowable, among other reasons, as depending either directly or indirectly from claim 17, which is allowable.

Claim 21 is further allowable because Kao lacks any express or inherent description of a subpad support which includes subpad retention element that is configured to engage at least a portion of a periphery of a subpad or of the seal described therein.

Claim 23 is additionally allowable since Kao does not expressly or inherently describe that the support structure thereof may include a lip which is configured to substantially completely surround a peripheral edge of a subpad or of the seal described therein.

Allowable Subject Matter

Claims 4, 7, 8, 16, and 20 have been objected for depending from a base claim which stands rejected. The indication that these claims recite allowable subject matter is noted with appreciation. Nonetheless, as independent claims 1 and 17 are believed to be allowable for the reasons provided herein, none of claims 4, 7, 8, 16, or 20 has been amended to independent form.

CONCLUSION

It is respectfully submitted that each of claims 1-23 is allowable. An early notice of the allowability of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Brick G. Power", with a long horizontal flourish extending to the right.

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Enclosure: Version With Markings to Show Changes Made

BGP/ps:djp

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE
IN THE SPECIFICATION:**

Please amend the title as follows:

SUBPAD SUPPORT [FOR A POLISHING APPARATUS INCLUDING A NON-ADHESIVE]
WITH A RELEASABLE SUBPAD SECURING ELEMENT[, ASSEMBLIES INCLUDING
THE SUPPORT AND A SUBPAD,] AND POLISHING APPARATUS INCLUDING THE
SUBPAD SUPPORT[, AND METHODS]